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NOTICE OF ALLOWANCE AND FEE(S) DUE

22850 7590 08/14/2008

OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER

BERNSHTEYN, MICHAEL

ART UNIT

PAPER NUMBER

1796

DATE MAILED: 08/14/2008

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/522,340

08/12/2005

Jean-Marc Suau

264369USOPCT

6461

TITLE OF INVENTION: METHOD FOR THE CONTROLLED RADICAL POLYMERISATION OF ACRYLIC ACID AND THE SALTS THEREOF,
POLYMERS THUS OBTAINED AND APPLICATIONS THEREOF

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1440	\$300	\$0	\$1740	11/14/2008

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

**Complete and send this form, together with applicable fee(s), to: Mail Mail Stop ISSUE FEE
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or Fax (571)-273-2885**

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

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22850 7590 08/14/2008

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C.
1940 DUKE STREET
ALEXANDRIA, VA 22314

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/522,340 08/12/2005 Jean-Marc Suau 264369US0PCT 6461

TITLE OF INVENTION: METHOD FOR THE CONTROLLED RADICAL POLYMERISATION OF ACRYLIC ACID AND THE SALTS THEREOF, POLYMERS THUS OBTAINED AND APPLICATIONS THEREOF

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
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nonprovisional NO \$1440 \$300 \$0 \$1740 11/14/2008

EXAMINER	ART UNIT	CLASS-SUBCLASS
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BERNSHTEYN, MICHAEL 1796 526-317100

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, 1 _____
- (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 _____
- 3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee
- ☐ Publication Fee (No small entity discount permitted)
- ☐ Advance Order - # of Copies _____

4b. Payment of Fee(s); (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
- ☐ Payment by credit card. Form PTO-2038 is attached.
- ☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature _____

Date _____

Typed or printed name _____

Registration No. _____

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/522,340	08/12/2005	Jean-Marc Suau	264369US0PCT	6461
22850	7590	08/14/2008	EXAMINER	
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			BERNSHTEYN, MICHAEL	
			ART UNIT	PAPER NUMBER
			1796	
DATE MAILED: 08/14/2008				

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 0 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 0 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

Notice of Allowability	Application No.	Applicant(s)	
	10/522,340	SUAU ET AL.	
	Examiner	Art Unit	
	MICHAEL M. BERNSHTEYN	1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 07/28/2008.
2. ☒ The allowed claim(s) is/are 1 and 3-8.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of the:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- * Certified copies not received: ____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date ____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date ____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|---|
| <p>1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)</p> <p>2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</p> <p>3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date ____</p> <p>4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material</p> | <p>5. <input type="checkbox"/> Notice of Informal Patent Application</p> <p>6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date ____.</p> <p>7. <input type="checkbox"/> Examiner's Amendment/Comment</p> <p>8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance</p> <p>9. <input type="checkbox"/> Other ____.</p> |
|--|---|

/Michael M. Bernshteyn/
Examiner, Art Unit 1796

DETAILED ACTION

1. This Office Action is a response to Appeal Brief filed on July 28, 2008. No claims have been amended, cancelled or added.
2. In view of the remarks, the objection of claim 8 and the rejection of claims 1 and 3-8 under 35 U.S.C. § 103(a) as being unpatentable over J. Chiefair et al. (WO 99/31144) in view of John T. Lai et al. (" Functional Polymers from Novel Carboxyl-Terminated Trithiocarbonates as Highly Efficient RAFT Agents", *Macromolecules* 2002, Vol. 35, No. 18, p. 6754-6756) have been withdrawn.
3. Claims 1 and 3-8 are now active.

Allowable Subject Matter

4. Claims 1 and 3-8 are allowed.

The following is a statement of reasons for the indication of allowable subject matter of claims 1-32: the present claims are allowable over the closest references: J. Chiefair et al. (WO 99/31144) and John T. Lai et al. (" Functional Polymers from Novel Carboxyl-Terminated Trithiocarbonates as Highly Efficient RAFT Agents", *Macromolecules* 2002, Vol. 35, No. 18, p. 6754-6756).

Chiefair discloses a free radical polymerization process for synthesizing polymers. The process utilizes sulfur based chain transfer agents and is widely compatible over a range of monomers and reaction conditions. The process produces novel polymers having low polydispersity and predictable specific polymer architecture

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and molecular weight. The polymers are suitable for use as binders in automobile OEM and refinish coating (abstract).

Chiefair discloses that a monomer mix suitable for use may include at least one vinyl monomer (page 13, lines 5-8, page 19, lines 18-28). Depending upon the type of polymer desired, the monomer mix may also include the following monomers: maleic anhydride, N-alkylmaleimide, N-arylmaleimide, dialkyl fumarate, cyclopolymerizable or ring opening monomer, or a combination thereof. The monomer mix may also include macromonomers, which are compounds of the formula (31) where L or M is a polymer chain. The monomers or comonomers of the formula (31) generally include one or more of acrylate and methacrylate esters, acrylic and methacrylic acids, styrene, acrylamide, methacrylamide, acrylonitrile, methacrylonitrile, vinyl esters and mixtures of these monomers, and mixtures of these monomers with other monomers (page 19, line 35 through page 20, line 3).

Chiefair discloses that one of the significant advantages of the process is that the low polydispersity of the polymer in the range of 1.05 to 1.3 can be maintained even at high monomer conversions in the range from 10% to 100% (page 24, lines 3-6).

Chiefair discloses a lot of chain transfer agents, which are substantially identical to the claimed invention. Some of them were exemplified by the Applicant, such as compound C (example 1, test 2, pages 15-16, [0185]); compound F (example 1, test 4, page 16, [0193]); compounds M, N and P (example 1, test 7, [0206]). The molar ratio of transfer agent to monomer and mass ratio of transfer agent to monomer are within the claimed ranges (Examples 15-52, pages 45-64).

John T. Lai discloses that the trithiocarbonates have extremely high chain-transfer efficiency and control over the radical polymerization because the carbon attached to the labile sulfur atom is tertiary and bears a radical-stabilizing carboxyl group. Telechelic carboxyl-terminated polymers are easily obtained when dicarboxyl trithiocarbonate is employed. Bulk or solution polymerizations of alkyl acrylates, acrylic acid, and styrene are well-controlled. Well-defined block copolymers can also be synthesized (p. 6754, 1st column). It has found that most common solvents would work with the controlled polymerization, tert-butyl alcohol, acetone, methyl ethyl ketone, toluene, xylene, water (for acrylic acid), and DMF are all suitable solvents. Bulk polymerizations are also successful. The polydispersity is usually close to 1.1, when the monomers are alkyl acrylates, acrylic acid, and styrene. Block copolymers are easily made by polymerizing the first monomer, removing residual monomers if less than 95% converted, followed by chain extension with the second monomer (p. 6754, 2nd column).

5. However, none of the references disclose or fairly suggest the instantly claimed usage of only water as a reaction medium in the first and second stage and “in situ” synthesis of a hydrosoluble transfer agent.

6. As of the date of this Notice of Allowability, the Examiner has not located or identified any reference that can be used singularly or in combination with another reference including Chiefair et al. and John T. Lai et al. to render the present invention anticipated or obvious to one of ordinary skill in the art.

7. In the light of the above discussion, it is evident as to why the present claims are patentable over the prior art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delay, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reason for Allowance".

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael M. Bernshteyn whose telephone number is 571-272-2411. The examiner can normally be reached on M-Th 8-6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/Michael M. Bernshteyn/
Examiner, Art Unit 1796

/M. M. B./
Examiner, Art Unit 1796

/Randy Gulakowski/
Supervisory Patent Examiner, Art Unit 1796